

Amendments to the Specification

Please add these paragraphs on page 13, after the first paragraph on the page ending at line 5,

Anisotropic prestrain may also improve the performance of a transducer to convert mechanical to electrical energy in a generator mode. In addition to increasing the dielectric breakdown strength of the polymer and allowing more charge to be placed on the polymer, high pre-strain may improve mechanical to electrical coupling in the low pre-strain direction. That is, more of the mechanical input into the low pre-strain direction can be converted to electrical output, thus raising the efficiency of the generator.

The quantity of pre-strain for a polymer may be based on the electroactive polymer and the desired performance of the polymer in an actuator or application. For some polymers of the present invention, pre-strain in one or more directions may range from -100 percent to 600 percent. By way of example, for a VHB acrylic elastomer having isotropic pre-strain, pre-strains of at least about 100 percent, and preferably between about 200-400 percent, may be used in each direction. In one embodiment, the polymer is pre-strained by a factor in the range of about 1.5 times to 50 times the original area. For an anisotropic acrylic pre-strained to enhance actuation in a compliant direction, pre-strains between about 400-500 percent may be used in the stiffened direction and pre-strains between about 20-200 percent may be used in the compliant direction. In some cases, pre-strain may be added in one direction such that a negative pre-strain occurs in another direction, e.g. 600 percent in one direction